

WHAT IS CLAIMED IS:

1. A photographic element comprising a support bearing at least one radiation-sensitive silver halide emulsion layer comprising silver halide grains containing greater than 50 mole percent chloride, based on silver, and having greater than 50 percent of their surface area provided by {100} crystal faces, wherein

(i) a first fraction which comprises from 10-90 wt% of the silver halide grains, based on total radiation-sensitive silver halide in the layer, consists of grains which have a central portion accounting for up to 99 percent of total silver which contains at least  $10^{-7}$  mole of a hexacoordination metal complex which satisfies formula (I) per mole of silver and less than  $10^{-10}$  mole of a hexacoordination metal complex which satisfies formula (II) per mole of silver, and

(ii) a second fraction which comprises from 10-90 wt% of the silver halide grains, based on total radiation-sensitive silver halide in the layer, consists of grains which have a central portion accounting for up to 99 percent of total silver which contains at least  $10^{-10}$  mole of a hexacoordination metal complex which satisfies the formula (II) per mole of silver and less than  $10^{-7}$  mole of a hexacoordination metal complex which satisfies the formula (I) per mole of silver:



wherein n is zero, -1, -2, -3 or -4,

M is a filled frontier orbital polyvalent metal ion, other than iridium, and

$L_6$  represents bridging ligands which can be independently selected, provided that at least four of the ligands are anionic ligands, and at least one of the ligands is a cyano ligand or a ligand more electronegative than a cyano ligand;



where T is a Os or Ru;

$E_4$  represents bridging ligands which can be independently selected;

$E'$  is E or NZ;

$r$  is zero, -1, -2 or -3; and

$Z$  is oxygen or sulfur.

2. An element according to claim 1 wherein the first and second fractions of the silver halide grains each comprise from 25-75 wt% of the total radiation-sensitive silver halide in the emulsion layer.

3. An element according to claim 2 wherein the first and second fractions of the silver halide grains each comprise from 40-60 wt% of the total radiation-sensitive silver halide in the emulsion layer.

4. An element according to claim 1 wherein the first fraction of silver halide grains contains from  $10^{-7}$  to  $10^{-3}$  mole of a hexacoordination metal complex of Formula (I) per mole of silver.

5. An element according to claim 4 wherein the first fraction of silver halide grains contains from  $10^{-6}$  to  $10^{-4}$  mole of a hexacoordination metal complex of Formula (I) per mole of silver.

6. An element according to claim 1 wherein the second fraction of silver halide grains contains from  $10^{-10}$  to  $10^{-7}$  mole of a hexacoordination metal complex of Formula (II) per mole of silver.

7. An element according to claim 6 wherein the second fraction of silver halide grains contains from  $10^{-9}$  to  $10^{-8}$  mole of a hexacoordination metal complex of Formula (II) per mole of silver.

8. An element according to claim 1 wherein M represents an  $Fe^{+2}$ ,  $Ru^{+2}$ ,  $Os^{+2}$ ,  $Co^{+3}$ ,  $Rh^{+3}$ ,  $Pd^{+4}$ , or  $Pt^{+4}$  ion.

9. An element according to claim 1 wherein M represents an iron, ruthenium or osmium ion.

5                   10. An element according to claim 1 wherein M represents a ruthenium ion.

11. An element according to claim 10 wherein T represents an osmium ion.

10                   12. An element according to claim 1 wherein T represents an osmium ion.

13. An element according to claim 1 wherein the dopant of  
15   Formula (I) is  $[\text{Ru}(\text{CN})_6]^{-4}$  and the dopant of Formula (II) is  $[\text{Os}(\text{NO})\text{Cl}_5]^{-2}$ .

14. An element according to claim 1 wherein the silver halide grains contain at least 70 mole percent chloride, based on silver.

15. An element according to claim 1 wherein the silver halide grains contain less than 5 mole percent iodide, based on silver.

20                   16. An element according to claim 15 wherein the silver halide grains contain less than 2 mole percent iodide, based on silver.

17. An element according to claim 1 wherein in the first fraction of silver halide grains the dopant of Formula (I) is located within the central portion of grains in a concentration of from  $10^{-8}$  to  $10^{-3}$  mole per mole of silver, and in the  
25   second fraction of silver halide grains the dopant of Formula (II) is located within the central portion of the grains in a concentration of from  $10^{-10}$  to  $10^{-7}$  mole per mole of silver.

18. An element according to claim 1 wherein each of the bridging ligands of the dopant of Formula (I) are at least as electronegative as cyano ligands.

5                   19. An electronic printing method which comprises subjecting the radiation sensitive silver halide emulsion layer of a recording element according to claim 1 to actinic radiation of at least  $10^{-4}$  ergs/cm<sup>2</sup> for up to 100  $\mu$  seconds duration in a pixel-by-pixel mode.

10                   20.     A method according to claim 19 wherein the pixels are exposed to actinic radiation of about  $10^{-3}$  ergs/cm<sup>2</sup> to  $10^2$  ergs/cm<sup>2</sup>.

                  21.     A method according to claim 19 wherein the exposure is up to 10  $\mu$  seconds.

                  22.     A method according to claim 19 wherein the source of actinic radiation is a light emitting diode.

15                   23.     A method according to claim 19 wherein the source of actinic radiation is a laser.

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